

ASTR288C

Homework 1

Due: 14 September

1. Find the celestial equatorial coordinates of Vega. Do not forget to include the epoch.
2. Vega has an apparent V -band magnitude of $m_V = 0.03$ mag. Assuming a photometric zero point of $K_V = -48.64$ what is the observed flux density of this star? The units of flux density for this zero point are $\text{erg cm}^{-2} \text{s}^{-1} \text{Hz}^{-1}$.
3. Vega is at a distance of $d = 7.76$ parsecs. What is its absolute magnitude?
4. Two stars in a binary system each have an apparent magnitude of $m_V = 10$ mag. What is the total apparent magnitude of the binary system? Assume that the zero point is $K_V = -48.64$.
5. Hand in the list of files that you created and printed in the lab.
6. Hand in the image that you printed in the lab. Include the source of the image.